

WHAT IS CLAIMED IS:

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1. A method for improving the wavelength dependent registration of digital images, said method comprising the steps of:
 - (a) detecting a similar feature in two or more digital records of the same original search digital record being wavelength-dependent;
 - (b) determining from the feature a shift due to misregistration of at least one of the digital records relative to another of the digital records; and
 - (c) processing said at least one of the digital records with a digital filter having a phase response that compensates for the shift, thereby providing a correction for the wavelength-dependent misregistration between the digital records.
2. A method as claimed in claim 1 wherein step (a) comprises detecting a graphical element in each of the digital records.
3. A method as claimed in claim 2 wherein step (b) comprises computing a centroid of the graphical element.
4. A method as claimed in claim 1 wherein step (a) comprises detecting an edge feature in each of the digital records.
5. A method as claimed in claim 4 wherein step (a) further comprises elements of the spatial frequency response method for a slanted edge feature according to the ISO 12233 standard.
6. A method as claimed in claim 4 wherein step (b) comprises computing a difference in pixel location of the feature located in said at least one digital record relative to the same feature located in said another of the digital records.

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7. A method as claimed in claim 1 wherein step (c) comprises processing the digital records with an FIR filter having an asymmetric response represented by a set of filter coefficients.

8. A method as claimed in claim 7 wherein step (c) comprises using a set of precalculated coefficients selected from a plurality of sets precalculated coefficients for various pixel shifts.

9. A method as claimed in claim 1 wherein step (c) comprises processing said at least one of the digital records with digital filter having a magnitude response that compensates for an aspect of the digital records other than misregistration.

10. A method as claimed in claim 1 wherein the digital filter in step (c) is obtained by convolving a first digital filter having a phase response that compensates for the shift with a second digital filter having a magnitude response that compensates for an aspect of the digital records other than the shift.

11. A method as claimed in claim 10 wherein the second digital filter in step (c) enhances the sharpness of, or blurs the one or more of the digital records.

12. A method as claimed in claim 1 wherein the digital records are red, green and blue records.

13. A method as claimed in claim 12 wherein said another of the records in step (b) is the green color record and the red and blue color records are filtered in step (c) to correct for color misregistration between the red and blue color records and the green color record.

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14. A computer program product for improving the color registration of digital images comprising: a computer readable storage medium having a computer program stored thereon for performing the steps of:

- (a) detecting a similar feature in two or more digital color records of the same scene;
- (b) determining from the feature a shift due to misregistration of at least one of the digital color records relative to another of the digital color records; and
- (c) processing said at least one of the digital color records with a digital filter having a phase response that compensates for the shift, thereby providing a correction for the color misregistration between the digital color records.

15. A computer program product as claimed in claim 14 wherein step (a) comprises detecting a graphical element in each of the digital records.

16. A computer program product as claimed in claim 15 wherein step (b) comprises computing a centroid of the graphical element.

17. A computer program product as claimed in claim 14 wherein step (a) comprises detecting an edge feature in each of the digital color records.

18. A computer program product as claimed in claim 17 wherein step (a) further comprises evaluating the location of a slanted edge feature according to the ISO 12233 standard.

19. A computer program product as claimed in claim 17 wherein step (b) comprises computing a difference in pixel location of the feature

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located in said at least one digital color record relative to the same feature located in said another of the digital color records.

20. A computer program product as claimed in claim 14 wherein step (c) comprises processing the digital color records with an FIR filter not constrained to a symmetrical array, represented by a set of filter coefficients.

21. A computer program product as claimed in claim 20 wherein step (c) comprises using a set of precalculated coefficients selected from a plurality of sets precalculated for various pixel shifts.

22. A computer program product as claimed in claim 14 wherein step (c) comprises processing said at least one of the digital color records with digital filter having a magnitude response that compensates for an aspect of the digital color records other than misregistration.

23. A computer program product as claimed in claim 14 wherein the digital filter in step (c) is obtained by convolving a first digital filter having a phase response that compensates for the shift with a second digital filter having a magnitude response that compensates for an aspect of the digital color records other than the shift.

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